

22. RANGE EXTENSION OF *CHRYSOPELEA ORNATA* SHAW (REPTILIA : COLUBRIDAE) WITH COMMENTS ON THE DISTRIBUTION OF SOME SNAKES IN NORTH INDIA

Chrysopelea ornata Shaw, variously named Golden Tree Snake (Smith 1943) and Ornate Flying Snake (Whitaker 1978) has been recorded to range over the whole of the Indo-Chinese region extending in the northwest to Darjeeling district in Bengal, Patna, Buxar in Bihar and Orissa (Smith 1943). It has also been recorded from the Western Ghats south of Goa (Whitaker 1978) and recently from the "Dangs" (Rao 1987).

In a collection of snakes at the Gharial Rehabilitation Centre, Katernia Ghat, District Bahraich, Uttar Pradesh (long. c. 81° 15' E) collected by Ajay K. Srivastava, a specimen unmistakably of *Chrysopelea ornata* was noticed. Since the specimen was poorly preserved, some basic scale counts were made and the pattern of cross-bars noted to confirm the identification. Given below are some scale counts in the specimen along with those reported by Smith.

	Katernia Ghat specimen	Smith
Ventrals	214	213-234
Caudals	115	120-138
Scale rows	18:16	17:17:15

The Katernia Ghat specimen had 70 cross-bars on the body with an enlarged vertebral spot at the position of the tetra-petalous spot in the live snakes. In view of all these points of resemblance, there is very little doubt that the specimen was one of *Chrysopelea ornata*. This is the first time that this species has been reported from an area which lies some 350 km. in a westerly direction from Buxar, the western extremity of its range in the Gangetic plains reported so far.

Smith's zoogeographic scheme for the herpetofauna of North India assigns extant species to mainly the Indian subregion of the Oriental region. This sub-region has been further distinguished into areas of different faunal characteristics, north and north-central India being covered by five such areas, viz. (i) the desert area of northwest India, (ii) Kashmir and Western Himalayas, (iii) Gangetic plains, (iv) Central India, (v) Chota Nagpur area. A part of north India, viz. the Eastern Himalayas extending from Western Nepal to the termination of the range at the bend of the Brahmaputra, has been excluded by Smith from the Indian sub-region and included with other areas of the Indo-Chinese sub-region because

of their faunal affinities.

Of interest here are the Gangetic plains which contain several elements of Assam and eastern Himalayas and the Chota Nagpur area. In Table 1 are listed 13 Ophidian species which have been recorded extensively and basically from the eastern

Himalayas and the Chota Nagpur area with isolated records from further west or Uttar Pradesh (United Provinces in Smith). Many references in Smith do not include locality, while some mention Faizabad. The occurrence of species such as *Lycodon jara*, which has been reported by Whitaker from U.P. based on a specimen collected by the author at Katernia Ghat, and others such as *Chrysopelea ornata*, *Dendrelaphis tristis* and *Bungarus fasciatus* which have been discovered here, support the idea that the humid and well forested areas of the Terai and Bhabar provide an exclusive corridor of suitable habitat for the spread of reptiles from the aforesaid areas in the east, deep into the Gangetic plains area. Faizabad, like Katernia Ghat, is situated on the banks of the Ghagra river, and the occurrence of certain species at Faizabad could be attributed to fortuitous dispersal by means of drift-wood along rivers (Smith, 1943) or simply due to closer study of the area. The actual dispersal of these species may have been through the Himalayan range, as geologically these are more ancient than the Gangetic plains. Finally it may be in order to add that in recent times it is likely that there has been extensive disruption of the distribution of herpetofauna as a result of clear-felling of large tracts of Terai forests on the plains of Nepal. But forest areas of Northern U.P. may still reveal the presence of many species hitherto believed to be restricted to the eastern parts of the country and merit intensive herpetological surveys to gain a proper perspective of the distribution of Indian herpetofauna before many species disappear without a trace.

ACKNOWLEDGEMENTS

I am grateful to Mr. R.S. Bhadauria, I.F.S., Addnl. Chief Wild Life Warden, U.P. and Mr. Ashok, I.F.S., D.F.O., Endangered Species Project, U.P. for their support of my work. I thank Mr. Shekhar Dattatri and Mr. Romulus Whitaker for going through the manuscript and offering useful suggestions and comments.

TABLE 1

Species	Distribution
1. <i>Enhydryis enhydryis</i>	N.E. India, Assam, Indo-China, Malay Peninsula, United Provinces (Smith). Chitwan, Nepal (Fleming & Fleming).
2. <i>Xenochrophis cerasogaster</i>	Bengal, Assam, U.P.(Faizabad), (Smith).
3. <i>Atrretium schistosum</i>	Sri Lanka, India (Annamalais, Wynaad, Mysore, U.P., Orissa) (Smith).
4. <i>Sybinophis saggittarius</i>	North-eastern India from the Central and United Provinces to Eastern Bengal (Smith). Western Himalayas (Wall; in Smith).
5. <i>Chrysopelea ornata</i>	Indo-Chinese region extending to Darjeeling district and to Patna, Buxar in Bihar and Orissa in the Northwest (Smith). Western Ghats, south of Goa (Whitaker), Dangs (Lokeswara Rao). Katernia Ghat (present paper).
6. <i>Dendrelaphis tristis</i>	Sri Lanka and peninsular India as far as Sind in the Northwest and Darjeeling in the northeast (Smith)...The Ganges valley appears to be outside its limits except at the eastern part near the Delta (Wall, in Smith). Katernia Ghat (Basu-unpublished observations).
7. <i>Liopeltis calamaria</i>	Sri Lanka, the Western Ghats, Tinnevely hills, Mysore plateau, United Provinces (Melghat, Almora District, Kurkhana, Gonda District) (Smith).
8. <i>Lycodon jara</i>	Ganjam in the northern part of the Madras Presidency, the eastern Himalayas as far west as long. 80° E, Bengal, Assam (Smith). U.P. (Whitaker-loc. Katernia Ghat). (Basu, unpublished observation).
9. <i>Elachistodon westermanni</i>	North bengal, Bihar, Purneah (Smith). Chitwan, Nepal (Fleming & Fleming).
10. <i>Bungarus fasciatus</i>	The whole of the Indo-Chinese subregion, the Malay Peninsula and Archipelago, Southern China (Smith). Hyderabad (Kinnear, in Smith), Godavari and Mahanadi valleys, Bihar, Orissa, (Wall, in Smith). Oudh in the United Provinces (Stone, in Smith). Katernia Ghat (Basu, unpublished observation).
11. <i>Bungarus walli</i>	U.P. (Faizabad), Bengal (Midnapore), Bihar & Orissa (Purnea, Gaya) (Wall, in Smith).
12. <i>Naja naja kaouthia</i>	Bengal and the eastern Himalyas as far west as Nepal, the whole of Indo-China. The specimens found in the United Provinces and Bihar are possibly migrants from the Eastern Himalayas (Smith).
13. <i>Ophiophagus hannah</i>	Peninsular India to the Himalyas, the whole of Indo-China, Burma, S. China, Malay Peninsula and archipelago, Philippine Islands. In peninsular India, its distribution corresponds to the mountain ranges and their vicinity (Smith). "This cobra is a forest snake in Nepal but not necessarily found in the hills" (Fleming & Fleming).

May 6, 1988.

D. BASU

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